

AS 1684.3 C3 Supplement 7—2010

Residential timber-framed construction

Part 3: Cyclonic areas

C3 Supplement 7: Timber framing span tables—Wind classification C3—WA seasoned hardwood—Stress Grade F14 (Supplement to AS 1684.3—2010)



This Australian Standard Supplement was prepared by Committee TM-002, Timber Framing. It was approved on behalf of the Council of Standards Australia on 21 December 2009. This Standard was published on 21 June 2010.

The following are represented on Committee TM-002:

- A3P
- Association of Consulting Engineers, Australia
- Australian Building Codes Board
- Australian Institute of Building
- Building Research Association of New Zealand
- CSIRO Manufacturing and Infrastructures Technology
- Engineered Wood Products Association of Australasia
- Engineers Australia
- Forest Industries Federation (WA)
- Frame and Truss Manufacturers Association Australia
- Housing Industry Association
- Master Builders, Australia
- New Zealand Timber Industry Federation
- Scion
- South Australian Housing Trust
- Timber and Building Materials Association, NSW
- Timber Development Association, NSW
- Timber Queensland

Additional Interests:

- Mr Peter Juniper
-

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Supplement through their representation on the Committee.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting **www.standards.org.au**

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at **mail@standards.org.au**, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

AS 1684.3 C3 Supplement 7—2010

Residential timber-framed construction

Part 3: Cyclonic areas C3 Supplement 7: Timber framing span tables—Wind classification C3—WA seasoned hardwood—Stress Grade F14 (Supplement to AS 1684.3—2010)

First published as AS 1684.3 C3 Supp 7—1999.
Second edition 2006.
Third edition 2010.

COPYRIGHT

© Standards Australia

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia
ISBN 978 0 7337 9572 5

LIST OF TABLES

SINGLE OR UPPER STOREY

- 1 FLOOR BEARERS – Supporting single or upper storey loadbearing walls – FLW 1200
- 2 FLOOR BEARERS – Supporting single or upper storey loadbearing walls – FLW 2400
- 3 FLOOR BEARERS – Supporting single or upper storey loadbearing walls – FLW 3600
- 4 FLOOR BEARERS – Supporting single or upper storey loadbearing walls – FLW 4800
- 5 FLOOR BEARERS – Supporting floor load only
- 6 FLOORJOISTS
- 7 WALL STUDS – Not notched single or upper storey
- 8 WALL STUDS – Notched 20 mm single or upper storey
- 9 STUDS SUPPORTING CONCENTRATED LOADS – Not notched
- 10 STUDS SUPPORTING CONCENTRATED LOADS – Notched to 20 mm
- 11 JAMB STUDS – Single or upper storey
- 12 INTERNAL LOADBEARING WALL STUDS – Not notched single or upper storey
- 13 INTERNAL LOADBEARING WALL STUDS – Notched to 20 mm single or upper storey
- 14 BOTTOM PLATES - Supporting single or upper storey
- 15 TOP PLATES – Single or upper storey sheet roof
- 16 TOPPLATES- Single or upper storey tile roof
- 17 LINTELS – Sheet roof – Single or upper storey loadbearing walls
- 18 LINTELS – Tile roof – Single or upper storey loadbearing walls
- 19 LINTELS – Sheet roof – Supporting concentrated roof loads
- 20 LINTELS – Tile roof – Supporting concentrated roof loads
- 21 CEILING JOISTS – Supporting ceiling loads, no overbatten
- 22 CEILING JOISTS – Supporting ceiling loads with overbatten
- 23 HANGING BEAMS – Supporting ceiling loads
- 24 COUNTERBEAMS
- 25 STRUTTING/HANGING BEAMS – Supporting roof & ceiling loads
- 26 STRUTTING/COUNTER BEAMS – Supporting roof & ceiling loads
- 27 STRUTTINGBEAMS
- 28 UNDERPURLINS
- 29 RAFTERS OR PURLINS
- 30 RIDGE OR INTERMEDIATE BEAMS – Single span
- 31 RIDGE OR INTERMEDIATE BEAMS – Continuous span
- 32 ROOF BATTENS – Supporting roofing only

LOWER STOREY OF TWO STOREY

- 33 FLOOR BEARERS – Supporting two storey loadbearing walls – FLW 1800
- 34 FLOOR BEARERS – Supporting two storey loadbearing walls – FLW 3600
- 35 FLOOR BEARERS – Lower Storey of two storey supporting upper and lower floor loads only
- 36 WALL STUDS – Not notched lower storey loadbearing walls
- 37 WALL STUDS - Notched to 20 mm lower storey loadbearing walls
- 38 STUDS – Not notched – Supporting concentrated floor loads
- 39 STUDS – Notched to 20 mm – Supporting concentrated floor loads
- 40 JAMB STUDS – Lower storey of two storey – FLW 1800
- 41 JAMB STUDS – Lower storey of two storey – FLW 3600
- 42 JAMB STUDS – Lower storey of two storey – FLW 4800
- 43 WALL STUDS - Not notched supporting floor loads only
- 44 WALL STUDS - Notched to 20 mm supporting floor loads only
- 45 BOTTOM PLATES – Lower storey of two storey
- 46 TOP PLATES – Lower storey of two storey
- 47 LINTELS – Lower storey loadbearing walls – Sheef roof
- 48 LINTELS – Lower storey loadbearing walls – Tile roof

VERANDAHS, POSTS & DECKS

- 49 DECK BEARERS
- 50 DECK JOISTS
- 51 VERANDAH BEAMS – Single span
- 52 VERANDAH BEAMS – Continuous span
- 53 POSTS SUPPORTING ROOF AND/OR FLOOR LOADS

TABLE 1 **FLOOR BEARERS - Floor load width 1200 mm**
Supporting single or upper storey loadbearing walls

Roof Load Width (mm)	1500		4500		7500		1500		4500		7500	
Size DxB (mm)	Maximum Bearer Span (mm)											
	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever
	Single Span						Continuous Span					
Sheet Roof												
2/80x30	1200	300	1100	300	1000	300	1700	500	1400	400	1300	300
2/80x40	1400	400	1200	300	1100	300	1800	500	1600	400	1400	400
2/105x30	1600	400	1400	400	1300	300	2200	650	1900	500	1700	500
2/105x40	1800	500	1500	400	1400	400	2400	700	2100	600	1900	500
2/125x30	1900	500	1700	500	1500	400	2600	750	2300	600	2000	600
2/125x40	2100	600	1800	500	1600	400	2900	800	2500	700	2200	600
2/175x30	2700	800	2300	600	2100	600	3600	1000	3100	900	2800	800
2/175x40	2900	800	2500	700	2300	600	3900	1100	3500	1000	3100	900
2/220x30	3400	1000	2900	800	2600	700	4300	1200	3900	1100	3600	1000
2/220x40	3700	1100	3200	900	2900	800	4600	1300	4100	1200	3800	1100
2/260x30	3900	1100	3400	1000	3100	900	4900	1400	4400	1300	4100	1200
2/260x40	4100	1200	3700	1100	3400	1000	5200	1500	4700	1400	4400	1300
Tile Roof												
2/80x30	1100	300	NS	NS	NS	NS	1500	400	1200	300	1000	300
2/80x40	1200	300	1000	300	NS	NS	1700	500	1300	300	1200	300
2/105x30	1500	400	1200	300	1000	300	2000	600	1600	400	1300	300
2/105x40	1600	400	1300	300	1100	300	2200	600	1800	500	1500	400
2/125x30	1700	500	1400	400	1200	300	2400	700	1900	500	1600	400
2/125x40	1900	500	1500	400	1300	300	2600	700	2100	600	1800	500
2/175x30	2400	700	2000	600	1700	500	3300	900	2700	800	2200	600
2/175x40	2700	800	2200	600	1900	500	3600	1000	2900	800	2600	700
2/220x30	3100	900	2500	700	2200	600	4000	1200	3300	900	2800	800
2/220x40	3400	1000	2700	800	2400	700	4300	1200	3600	1000	3200	900
2/260x30	3600	1000	2900	800	2500	700	4500	1300	3900	1100	3300	900
2/260x40	3900	1100	3200	900	2800	800	4900	1400	4100	1200	3800	1100

NOTES:

- Maximum bearer spans supporting roof loads are based on the support of a maximum total sheet roof, framing and ceiling mass of 40 kg/m², a maximum total tile roof, framing and ceiling mass of 90 kg/m² and a maximum flooring mass of 40 kg/m². For guidance on determination of roof mass refer to Appendix B.
- Cantilevers shall not exceed 50% of actual backspan.
- Minimum bearing length = 50 mm at end supports and 100 mm at internal supports for continuous members.
- Multiple members shall be nailed together as per Clause 2.3.
- For design parameters refer to Figure 4.6.
- Where loadbearing walls are supported at right angles to bearer within the bearer span reference should be made to Clause 4.3.1.5.
- Where bearers support roof point loads, reference should be made to Clause 4.3.1.6.

TABLE 2 **FLOOR BEARERS - Floor load width 2400 mm**
Supporting single or upper storey loadbearing walls

Roof Load Width (mm)	1500		4500		7500		1500		4500		7500	
Size DxB (mm)	Maximum Bearer Span (mm)											
	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever
	Single Span						Continuous Span					
Sheet Roof												
2/80x30	1100	300	1000	300	NS	NS	1400	400	1300	300	1200	300
2/80x40	1200	300	1100	300	1000	300	1600	400	1400	400	1300	300
2/105x30	1400	400	1300	300	1200	300	1800	500	1700	500	1500	400
2/105x40	1500	400	1400	400	1300	300	2100	600	1900	500	1700	500
2/125x30	1600	400	1500	400	1400	400	2200	600	2000	600	1800	500
2/125x40	1800	500	1600	400	1500	400	2500	750	2200	600	2100	600
2/175x30	2300	600	2100	600	1900	500	3000	900	2800	800	2600	700
2/175x40	2500	700	2300	600	2100	600	3400	1000	3100	900	2900	800
2/220x30	2900	800	2600	700	2400	700	3800	1100	3500	1000	3200	900
2/220x40	3200	900	2900	800	2700	800	4100	1200	3800	1100	3600	1000
2/260x30	3400	1000	3100	900	2900	800	4300	1200	4000	1200	3800	1100
2/260x40	3700	1100	3400	1000	3100	900	4700	1400	4300	1200	4100	1200
Tile Roof												
2/80x30	1000	300	NS	NS	NS	NS	1300	300	1100	300	1000	300
2/80x40	1100	300	NS	NS	NS	NS	1500	400	1200	300	1100	300
2/105x30	1300	300	1100	300	1000	300	1700	500	1500	400	1300	300
2/105x40	1400	400	1200	300	1100	300	1900	500	1600	400	1400	400
2/125x30	1500	400	1300	300	1200	300	2000	600	1700	500	1500	400
2/125x40	1700	500	1400	400	1300	300	2300	600	2000	600	1700	500
2/175x30	2200	600	1800	500	1600	400	2900	800	2400	700	2100	600
2/175x40	2400	700	2000	600	1800	500	3200	900	2700	800	2400	700
2/220x30	2700	800	2300	600	2100	600	3600	1000	3100	900	2600	700
2/220x40	3000	900	2500	700	2300	600	3900	1100	3400	1000	3000	900
2/260x30	3200	900	2700	800	2400	700	4100	1200	3600	1000	3100	900
2/260x40	3500	1000	3000	900	2700	800	4400	1300	3900	1100	3600	1000

NOTES:

- Maximum bearer spans supporting roof loads are based on the support of a maximum total sheet roof, framing and ceiling mass of 40 kg/m², a maximum total tile roof, framing and ceiling mass of 90 kg/m² and a maximum flooring mass of 40 kg/m². For guidance on determination of roof mass refer to Appendix B.
- Cantilevers shall not exceed 50% of actual backspan.
- Minimum bearing length = 50 mm at end supports and 100 mm at internal supports for continuous members.
- Multiple members shall be nailed together as per Clause 2.3.
- For design parameters refer to Figure 4.6.
- Where loadbearing walls are supported at right angles to bearer within the bearer span reference should be made to Clause 4.3.1.5.
- Where bearers support roof point loads, reference should be made to Clause 4.3.1.6.

TABLE 3 **FLOOR BEARERS - Floor load width 3600 mm**
Supporting single or upper storey loadbearing walls

Roof Load Width (mm)	1500		4500		7500		1500		4500		7500	
Size DxB (mm)	Maximum Bearer Span (mm)											
	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever	Span	Cantilever
	Single Span						Continuous Span					
Sheet Roof												
2/80x30	NS	NS	NS	NS	NS	NS	1200	300	1100	300	1000	300
2/80x40	1000	300	1000	300	NS	NS	1300	300	1200	300	1200	300
2/105x30	1200	300	1100	300	1100	300	1500	400	1400	400	1300	300
2/105x40	1400	400	1300	300	1200	300	1700	500	1600	400	1600	400
2/125x30	1500	400	1400	400	1300	300	1800	500	1700	500	1600	400
2/125x40	1600	400	1500	400	1400	400	2100	600	2000	600	1800	500
2/175x30	2100	600	1900	500	1800	500	2500	700	2400	700	2200	600
2/175x40	2300	600	2100	600	2000	600	2900	800	2700	800	2600	700
2/220x30	2600	700	2400	700	2300	600	3200	900	3000	900	2800	800
2/220x40	2800	800	2600	700	2500	700	3600	1000	3400	1000	3200	900
2/260x30	3100	900	2800	800	2700	800	3700	1100	3500	1000	3300	900
2/260x40	3400	1000	3100	900	2900	800	4300	1200	4000	1200	3800	1100
Tile Roof												
2/80x30	NS	NS	NS	NS	NS	NS	1100	300	1000	300	NS	NS
2/80x40	1000	300	NS	NS	NS	NS	1300	300	1100	300	1000	300
2/105x30	1200	300	1000	300	NS	NS	1500	400	1300	300	1200	300
2/105x40	1300	300	1100	300	1000	300	1700	500	1500	400	1300	300
2/125x30	1400	400	1200	300	1100	300	1700	500	1500	400	1400	400
2/125x40	1500	400	1400	400	1200	300	2000	600	1800	500	1600	400
2/175x30	2000	600	1700	500	1600	400	2400	700	2100	600	1900	500
2/175x40	2200	600	1900	500	1700	500	2800	800	2500	700	2200	600
2/220x30	2500	700	2200	600	2000	600	3000	900	2700	800	2400	700
2/220x40	2700	800	2400	700	2200	600	3500	1000	3100	900	2800	800
2/260x30	2900	800	2600	700	2300	600	3600	1000	3200	900	2900	800
2/260x40	3200	900	2800	800	2600	700	4100	1200	3700	1100	3300	900

NOTES:

- Maximum bearer spans supporting roof loads are based on the support of a maximum total sheet roof, framing and ceiling mass of 40 kg/m², a maximum total tile roof, framing and ceiling mass of 90 kg/m² and a maximum flooring mass of 40 kg/m². For guidance on determination of roof mass refer to Appendix B.
- Cantilevers shall not exceed 50% of actual backspan.
- Minimum bearing length = 50 mm at end supports and 100 mm at internal supports for continuous members.
- Multiple members shall be nailed together as per Clause 2.3.
- For design parameters refer to Figure 4.6.
- Where loadbearing walls are supported at right angles to bearer within the bearer span reference should be made to Clause 4.3.1.5.
- Where bearers support roof point loads, reference should be made to Clause 4.3.1.6.